

B. In the Claims

Please cancel claims 23, 34 to 54, 56 to 58 and 62 to 64 without prejudice.

Upon entry of the present amendment, the status of the claims will be as follows:

1. (original) A substantially purified human small conductance calcium-activated channel-3 (hKCa3/KCNN3) polypeptide comprising an amino acid sequence as set forth in SEQ ID NO:2.
2. (withdrawn) An isolated polynucleotide encoding an hKCa3/KCNN3 polypeptide comprising an amino acid sequence as set forth in SEQ ID NO:2.
3. (withdrawn) An isolated polynucleotide selected from the group consisting of:
 - (a) SEQ ID NO:1, where T can also be a U;
 - (b) nucleic acid sequences complementary to SEQ ID NO:1;
 - (c) fragments of SEQ ID NO:1 that are at least 15 bases in length and will hybridize to DNA which encodes a polypeptide as set forth in SEQ ID NO:2.
4. (withdrawn) The polynucleotide of claim 2, wherein said polynucleotide is operatively linked to an expression control sequence.
5. (withdrawn) The polynucleotide of claim 4, wherein the expression control sequence is a promoter.
6. (withdrawn) The polynucleotide of claim 5, wherein the promoter is tissue specific.

7. (withdrawn) An expression vector containing the polynucleotide of claim 2.
8. (withdrawn) The vector of claim 7, wherein the vector is a plasmid.
9. (withdrawn) the vector of claim 7, wherein the vector is a viral vector.
10. (withdrawn) The vector of claim 9, wherein the viral vector is a retroviral vector.
11. (withdrawn) A host cell containing the vector of claim 7.
12. (withdrawn) The host cell of claim 11, wherein the cell is a eukaryotic cell.
13. (withdrawn) The host cell of claim 11, wherein the cell is a prokaryotic cell.
14. (original) An antibody which binds to an hKCa3/KCNN3 polypeptide having an amino acid sequence as set forth in SEQ ID NO:2 or conservative variants thereof.
15. (original) The antibody of claim 14, wherein the antibody is monoclonal.
16. (original) The antibody of claim 14, wherein the antibody is polyclonal.

17. (withdrawn) A method for identifying a compound which affects hKCa3/KCNN3, comprising:
- (a) incubating the compound and a sample of interest, wherein said sample contains a member of the group consisting of hKCa3/KCNN3 polypeptide and hKCa3/KCNN3 polynucleotide, under conditions sufficient to allow the compound of interest to interact with the sample;
 - (b) determining the effect of the compound on the expression or activity of hKCa3/KCNN3.
18. (withdrawn) The method of claim 17, wherein the sample of interest is a host cell containing an expression vector comprising an isolated polynucleotide encoding the hKCa3/KCNN3 polypeptide encoding SEQ ID NO:2.
19. (withdrawn) The method of claim 17, wherein the sample of interest is a cell line expressing an hKCa3/KCNN3 polypeptide.
20. (withdrawn) The method of claim 17, wherein the sample of interest is hKCa3/KCNN3 polypeptide having an amino acid sequence as set forth in SEQ ID NO:2.
21. (withdrawn) The method of claim 17, wherein the sample of interest is a polynucleotide encoding SEQ ID NO:2.
22. (withdrawn) The method of claim 17, wherein the compound is selected from the group consisting of a peptide, peptidomimetic, chemical compound, and a pharmaceutical compound.
23. (canceled).

24. (withdrawn) The method of claim 21, wherein the sample is nucleic acid.
25. (withdrawn) The method of claim 24, further comprising amplifying the nucleic acid of the sample prior to contacting a sample from the subject suspected of having a hKCa3/KCNN3 disorder with a reagent that binds to hKCa3/KCNN3.
26. (withdrawn) The method of claim 21, wherein the sample is a biopsy, blood, plasma, serum, or urine.
27. (withdrawn) The method of claim 21, wherein the disorder is selected from the group consisting of a neuropsychiatric, neurological, neuromuscular, and immunological disorder.
28. (withdrawn) The method of claim 21, wherein the disorder is bipolar disease.
29. (withdrawn) The method of claim 21, wherein the disorder is schizophrenia.
30. (withdrawn) The method of claim 21, wherein the reagent is an antibody which binds to hKCa3/KCNN3 polypeptide.
31. (withdrawn) The method of claim 21, wherein the reagent is a polynucleotide which encodes SEQ ID NO:2.
32. (withdrawn) The method of claim 21, wherein the reagent is detectably labeled.

33. (withdrawn) The method of claim 32, wherein the detectable label is selected from the group consisting of a radioisotope, a fluorescent compound, a bioluminescent compound and a chemiluminescent compound.

Claims 34-54 (canceled).

55. (original) A method of treating a subject having or at risk of having an hKCa3/KCNN3-associated or hKCa3/KCNN3-related disorder, comprising administering to the subject a therapeutically effective amount of a polynucleotide encoding SEQ ID NO:2.

Claims 56-58 (canceled).

59. (original) A composition for administration of hKCa3/KCNN3 to a patient having an hKCa3/KCNN3-associated or hKCa3/KCNN3-related disorder comprising:

- (a) a therapeutically effective amount of a substantially pure hKCa3/KCNN3 polypeptide; and
- (b) a pharmaceutically acceptable carrier.

60. (original) The composition of claim 55, wherein the carrier is a liposome.

61. (original) A kit useful for detecting the presence of hKCa3/KCNN3 in a sample from a subject having a hKCa3/KCNN3-associated or hKCa3/KCNN3-related disorder, the kit comprising: carrier means being compartmentalized to receive in close confinement therein one or more containers comprising a container containing an antibody which specifically binds to hKCa3/KCNN3.

Claims 62-64 (canceled)